

CLAIMS

What is claimed is:

1. A configurable input/output interface suitable for communicatively coupling a host with a target device, comprising:
 - a memory suitable for storing an indication describing a desired operating mode of at least two modes for the input/output interface; and
 - a controller communicatively coupled to the memory, wherein the controller accesses the memory to determine from the indication which mode of the at least two modes to operate, the controller then configuring the input/output device to operate in at least one of the at least two modes, wherein the at least two modes include at least two of
 - a first mode providing a logical identifier utilized to provide the host with access to multiple routes for communicatively coupling the input/output interface to the target utilizing the logical identifier;
 - a second mode providing a logical identifier utilized to provide the host with access to the target utilizing a single route; and
 - a third mode providing a logical identifier corresponding to a physical address of the target.
2. The input/output interface as described in claim 1, wherein the second mode enables a host to utilize a logical identifier corresponding to each route available between the input/output interface and the host so that a single logical identifier is provided for each route.
3. The input/output interface as described in claim 1, wherein the indication is set for the first mode when the host does not have dynamic multipathing functionality.

4. The input/output interface as described in claim 1, wherein the indication is set for the second mode when the host has dynamic multipathing functionality.
5. The input/output interface as described in claim 1, wherein the indication is set for the third mode when a target is in a controlled environment such that the physical address of the target is controlled.
6. The input/output interface as described in claim 5, wherein the controlled environment includes a target and a RAID controller.
7. The input/output interface as described in claim 1, wherein the memory is non-volatile.
8. The input/output interface as described in claim 7, wherein the non-volatile memory includes at least one of EEPROM, SEEPROM, SRAM, SRAM having a battery backup, NVSRAM, SRAM having a SEEPROM backup, FRAM and flash.

9. A method for providing data transfer between a host and a target in a network environment by a configurable input/output interface, comprising:

providing a logical identifier, the logical identifier configurable for operation in at least two modes, the at least two modes including at least two of

- referencing multiple data transfer routes between the target and the input/output device utilizing a single logical identifier;
- referencing a single route between the target and the input/output device utilizing a logical identifier; and
- referencing a physical address of the target utilizing a logical identifier;

and

managing communications between the host and the target by selecting a mode of at least two modes operable by the input/output interface.

10. The method as described in claim 9, wherein the second mode enables a host to utilize a logical identifier corresponding to each route available between the input/output interface and the host so that a single logical identifier is provided for each route.
11. The method as described in claim 10, wherein the host has dynamic multipathing functionality so as to enable the host to select from a plurality of routes to a single target.
12. The method as described in claim 9, wherein the logical identifier is set for the first mode when the host does not have dynamic multipathing functionality.
13. The method as described in claim 9, wherein the logical identifier is set for the second mode when the host has dynamic multipathing functionality.

14. The method as described in claim 9, wherein the indication is set for the third mode when a target is in a controlled environment such that the physical address of the target is controlled.
15. The method as described in claim 14, wherein the controlled environment includes a target and a RAID controller.

16. A configurable input/output interface for data transfer between a host and a target in a network environment, comprising:

- a first data transfer route suitable for communicatively coupling the input/output interface to a host system;
- a second data transfer route suitable for communicatively coupling the input/output interface to a target;
- a third data transfer route suitable for communicatively coupling the input/output interface to the target;
- a memory suitable for storing an indication describing a desired operating mode of at least two modes for the input/output interface; and
- a controller communicatively coupled to the first data transfer route, the second data transfer route, the third data transfer route and the memory, the controller suitable for configuring the input/output interface based on the stored indication to operate in at least one of at least two modes wherein the at least two modes operable by the input/output interface include at least two of
 - a first mode which configures the controller to provide a logical identifier involving both the second data transfer route and the third data transfer route;
 - a second mode which provides a first logical identifier involving the second data transfer route and a second logical identifier involving the third data transfer route;
 - and
 - a third mode providing a logical identifier corresponding to a physical address of the target.

17. The input/output interface as described in claim 16, wherein the logical identifiers are included in a logical identifier table.

18. The input/output interface as described in claim 16, wherein the second mode enables a host to utilize a logical identifier corresponding to each route available between the input/output interface and the host so that a single logical identifier is provided for each route.
19. The input/output interface as described in claim 16, wherein the indication is set for the first mode when the host does not have dynamic multipathing functionality.
20. The input/output interface as described in claim 16, wherein the indication is set for the second mode when the host has dynamic multipathing functionality.
21. The input/output interface as described in claim 16, wherein the indication is set for the third mode when a target is in a controlled environment such that the physical address of the target is controlled.
22. The input/output interface as described in claim 21, wherein the controlled environment includes a target and a RAID controller.
23. The input/output interface as described in claim 16, wherein the memory is non-volatile.
24. The input/output interface as described in claim 23, wherein the non-volatile memory includes at least one of EEPROM, SEEPROM, SRAM, SRAM having a battery backup, NVSRAM, SRAM having a SEEPROM backup, FRAM and flash.

25. An input/output interface for providing data transfer between a host and a target in a network environment by a configurable input/output interface, comprising:

means for providing a logical identifier table by an input/output interface, the logical identifier table including at least one means for logically identifying at least one of a data transfer route between the host and the target and a physical address of the target; and

means for managing communications between the host and the target by selecting a mode of at least two modes operable by the input/output interface, wherein a first mode of the at least two modes configures the input/output interface to provide a host with access to at least two routes for communicatively coupling the input/output interface to the target utilizing the identifying means; a second mode of the at least two modes wherein the identifying means is utilized to provide the host with access to the target utilizing a single route; and a third mode wherein identifying means corresponds to a physical address of the target.